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## The future of dentistry: Market change, manpower needs, and the adaptability of a profession

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## The future of dentistry: Market change, manpower needs, and the adaptability of a profession

### Abstract

With new research, technology, and a patient that has become increasingly esthetics oriented, the future of dentistry is looking monetary stable. However, in order for the dental profession to continue to evolve, adapt, and meet the needs of underserved population, they will need to increase their manpower. Dental manpower is low due to the closing of some dental schools, decreased numbers of positions at those schools, and the unattractiveness of practicing in the underserved areas. Those who suffer most from this lack of manpower are the uninsured, poor, elderly, disabled, and those living in under served regions. To deal with this shortage in dental care providers, there needs to be an increase in dental caregivers. This can be accomplished by funding existing and new dental schools, and offering financial incentives to practice in the underserved regions. This will be beneficial to the overall health of the underserved and the overall success of the dental profession.

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**The Future of Dentistry: Market Change,  
Manpower Needs, and the Adaptability of a  
Profession**

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## **Abstract**

With new research, technology, and a patient that has become increasingly esthetics oriented, the future of dentistry is looking monetary stable. However, in order for the dental profession to continue to evolve, adapt, and meet the needs of underserved population, they will need to increase their manpower. Dental manpower is low due to the closing of some dental schools, decreased numbers of positions at those schools, and the unattractiveness of practicing in the underserved areas. Those who suffer most from this lack of manpower are the uninsured, poor, elderly, disabled, and those living in underserved regions. To deal with this shortage in dental care providers, there needs to be an increase in dental caregivers. This can be accomplished by funding existing and new dental schools, and offering financial incentives to practice in the underserved regions. This will be beneficial to the overall health of the underserved and the overall success of the dental profession.

## **Introduction**

The profession of dentistry is one that mixes craftsmanship with science. It is a profession that is constantly impacted by research and innovative technology. Because of the impact that research and technology has had, and due to a society that is always try to enhance its physical appearance, the market of dentistry has become much more cosmetically based. Many dentists have adapted to the wants of their patients due to saturation of dentists within the more monetarily stable communities. Due to the success of prevention programs, these dentists are finding fewer dental diseases and are providing the cosmetic services these patients desire in order to keep their businesses running.

However, due to the lack of dental manpower, there are still many people in rural and urban communities that are lacking the basic and most vital dental care, the type of care that can detect and prevent many different diseases. Likewise, the poor, elderly and uninsured are often left without the care and care givers that they need.

In order for the dental needs throughout the country to be met there needs to be an increase in the dental manpower across the nation. This increase will provide those who are in need of basic dental care and are currently not receiving it the opportunity to be beneficiaries of the sought after dental care. The future of dentistry lies in the hands of the dental professionals that provide those in need with care. Increased manpower by increasing number of dental schools and incentives to dentists will make for a better future of the profession and a better future for the overall health of the nation.

This paper will explore the research that has been done on the dental manpower within United States, underserved patients, and market changes in dentistry over the last several years in order to show that increased manpower will help to make access to care more equitable across the country.

## **Review**

### **a. Has there been, is there, or will there ever be a shortage of dentists?**

Looking back to the late 1960's, the debate about manpower in dentistry was an important topic. December, 1967 brought about the Dental Manpower Workshop held in St. Louis. Many individuals within the field of dentistry attended the workshop. However some left with the feeling that the issue at hand, manpower, was not addressed properly. Dr. O. W. Brandhorst felt that more of their time was spent delegating more

duties to the dental auxiliaries instead of developing methods to provide additional manpower to the population of the United States at that time and in the future (Brandhorst, 1967).

At that time it was estimated that the population would grow 15% from 1965-1975 and 25% by 1980. They also estimated that the average family income would increase putting more demand on dental services and increasing services by 23-35%. Taking these two statistics and adding in the developing availability of dental programs it was estimated that the over all demand for dental services would increase by 50-75% from 1965-1975, and increase by 75-100% come 1980. During that time the projection for increasing dentists was 15% for the time period of 1965-1975, and 25% by 1980 (Easlick, 1967). Only 25% increase in dentists to meet the 75-100% increase in demand for dental services.

The results of this conference and other research resulted in the federal government funding dental schools. During this period, most dental schools received funding to increase enrollment. However, in the early 1980's researchers began to speculate whether there had ever been such an increased demand in 1960's that would have made all of the funding necessary. Further study showed that there was, in fact, an uneven distribution of dentists between rural, urban and suburban parts of the country, the very same areas suffering in the 1980's.

The Dental Manpower Workshop did at least make mention of the uneven distribution at that time throughout the United States. The areas that suffered from this were rural communities, isolated communities, and poverty stricken communities. These areas did not attract the number of dentists needed to meet their demands for service

(Easlick, 1967). The problem of uneven distribution of dentists since 1960's and probably before that has not yet found a solution.

In the United States today there is still an uneven distribution of dentists. The same areas find themselves unable to acquire the dental services that they need. The following chart shows the percent of rural communities in each state.

Table 1: Ranking of States by Percent Rural Populations  
 Note: The state with the highest value is indicated by "1"

| State          | Percent Rural Population | Ranking | State          | Percent Rural Population | Ranking |
|----------------|--------------------------|---------|----------------|--------------------------|---------|
| Alabama        | 32.6                     | 30      | Montana        | 76.0                     | 1       |
| Alaska         | 58.2                     | 9       | Nebraska       | 49.4                     | 14      |
| Arizona        | 15.3                     | 40      | Nevada         | 15.2                     | 43      |
| Arkansas       | 55.3                     | 12      | New Hampshire  | 38.0                     | 18      |
| California     | 3.3                      | 49      | New Jersey     | 10.6                     | 41      |
| Colorado       | 18.2                     | 34      | New Mexico     | 44.0                     | 16      |
| Connecticut    | 8.5                      | 45      | New York       | 8.3                      | 46      |
| Delaware       | 17.4                     | 35      | North Carolina | 33.7                     | 19      |
| Dist. Columbia | 0.0                      | 51      | North Dakota   | 58.5                     | 8       |
| Florida        | 7.0                      | 48      | Ohio           | 18.7                     | 33      |
| Georgia        | 32.3                     | 21      | Oklahoma       | 39.9                     | 17      |
| Hawaii         | 25.3                     | 29      | Oregon         | 29.9                     | 27      |
| Idaho          | 70.0                     | 3       | Pennsylvania   | 15.2                     | 43      |
| Illinois       | 16.0                     | 39      | Rhode island   | 8.7                      | 44      |
| Indiana        | 28.4                     | 28      | South Carolina | 30.2                     | 26      |
| Iowa           | 56.2                     | 11      | South Dakota   | 67.5                     | 6       |
| Kansas         | 45.4                     | 15      | Tennessee      | 32.3                     | 21      |
| Kentucky       | 51.5                     | 13      | Texas          | 16.1                     | 38      |
| Louisiana      | 25.0                     | 30      | Utah           | 22.5                     | 31      |
| Maine          | 60.0                     | 7       | Vermont        | 68.3                     | 5       |
| Maryland       | 7.2                      | 7       | Virginia       | 22.5                     | 31      |



|               |      |    |               |      |    |
|---------------|------|----|---------------|------|----|
| Massachusetts | 1.5  | 50 | Washington    | 17.0 | 37 |
| Michigan      | 17.3 | 36 | West Virginia | 58.2 | 9  |
| Minnesota     | 30.7 | 25 | Wisconsin     | 31.9 | 23 |
| Mississippi   | 69.3 | 4  | Wyoming       | 70.3 | 2  |
| Missouri      | 31.7 | 24 |               |      |    |

Adapted from Waldman BH: Rural and urban distribution of dentists, or Is there still gold in them thar hills?

These rural communities are not the only communities that are in need of additional care. Urban communities are in need of dentists, and their services. The supply of dentists in urban areas is similar to that of physicians. Similar problems plague dental facilities in these blighted areas. A school nurse in Camden, New Jersey described the children in her school as coming “to school with rotting teeth. They sit in class, leaning on their elbows, in discomfort.” (Kozol, 1991)

Mobile clinics, free clinics and volunteers do help to relieve many of the dental problems within these communities. There is a problem with the citizens of these communities utilizing the care even when it is available. But more dental manpower in these areas would serve to educate the community on prevention and supply the necessary services for conditions the community is suffering through. However, the supply of dentists serving in these areas is not increasing and it not likely that it will increase without incentives for dentists to work in these areas. Incentives require additional money and presently there is no funding source available.

Money was also a factor in the recent closure of dental schools at Loyola, Northwestern, Washington University of St. Louis, and Oral Roberts. Another school which is in danger of closing is Marquette University unless it receives state funding from Wisconsin (Pierre Fauchard Academy, 2004). Still other schools are lowering class sizes. One reason for the lower numbers admitted into a school is that there is not enough

faculty to provide students with the education they need. Many faculty opt to leave and go into private practice where there is more money to be made. As a result of the lower class sizes, for every 5 dentists retiring, only 3 will graduate. In addition, nationwide there are about 152,000 active dentists and more than one-third of them are over the age of 55 (ADA, 2003).

The United States is facing a shortage of dentists and it looks as if it might take some time to get the manpower needed to serve those in need. Moreover, those most in need of dental services are the rural, urban, poor, elderly, and uninsured populations.

#### **b. Underserved Patients**

Underserved geographic areas, and patients with no dental insurance make up a large proportion of patients who do not have access to many dental prevention measures. In the year 2000 the Surgeon General shed some light on what many called a “silent epidemic” of oral diseases and its effect on the poor, needy, and elderly. In the Surgeon General’s Report entitled *Oral Health in America*, the point was made that oral health is essential to the general health and well-being of individuals (Carmana, 2003).

When there is a lack of care in an area the population is more likely to self treat themselves or simply not go to the dentist, even if a dentist were to come into their area. Faced with no access to dental care the population will experience an increase in dental disease (Mouradian, Wehr, Crall, 2000). In addition there are a plethora of diseases that can be detected in their earliest stages from routine dental check ups, such as diabetes, osteoporosis, eating disorders, HIV, cancer, dental caries and periodontal disease. Recently, human papillomavirus was found to play an etiologic role in many cancers of the oropharynx and oral cavity (JADA, 2004). When these diseases are left untreated

many problems may arise, loss of function of the mouth, esthetics, pain management, and death (Wilkins, 1999).

Poor care, or lack of oral health can affect the overall health of an individual. Dental disease has a great impact on a person's general health. Studies have also shed new light that periodontal infections can be risk factors for cerebrovascular and cardiovascular diseases (Haraszthy et. al., 1998; Chiu et. al., 1999). Low birth weight, premature delivery, and pneumonia in elderly adults have all been linked to poor oral health.

### **1. Underserved Geographic areas**

As mentioned above, the citizens of rural areas suffer from the uneven distribution of dentists in the United States. When referring to a rural area it is important to have definition of what rural is. Knapp and Hardwick refer to rural as a non-metropolitan, meaning not in a metropolitan statistical area (MSA). An MSA is defined as a county, or group of counties that includes a city with a population of 50,000 residents or more, or an urbanized area that is itself part of a county with at least 50,000 people, or a group of counties with at least 100,000 people.

Due to the misdistribution of dentists throughout the country, rural areas find themselves facing a low dentist to patient ratio, placing many rural areas into a Dental Health Professional Shortage Area (DHPSA). From a national stand point there are 75.9 dentists per 100,000 people. Now evaluating the rural stand point we find that there are 55 dentists per 100,000 people. Also, of the rural population 5.8 million of them have no dental provider. Finally, looking at the DHPSA we uncover that there are 29.1 dentists per 100,000 people as an average (Knapp, Hardwick, 2000). Each year less

graduating dentists seek practicing in rural areas. Thus, there is a growing shortage of dentists in rural areas (Belt, 2002). For many rural residents the barriers to dental care access are insurmountable. Physical disabilities, lack of time or transportation, financial shortfalls, and distant facilities often make dental treatment virtually impossible.

## **2. Insurance barriers**

It is estimated that 28% of school children in California alone have no dental insurance. Children are in great need for dental care. Among other issues, they need to retain a healthy primary dentition in to maintain the space for permanent teeth and to assure the health of their permanent teeth (Mouradian, Wehr, Crall, 2000). The working poor encompass a large portion of the uninsured population. UCLA Center for Health Policy Research found that 82% of the uninsured are from working families (Belt, 2002).

Racial and ethnic minorities also encompass a large portion of the uninsured. Along with other reasons for their high number, migrant farm workers are among these numbers. This portion of the population faces a unique opportunity of following the seasons and since some of these workers are illegal immigrants, they may need to stay out of the eye of INS and therefore do not seek care.

Unfortunately, 85% of senior citizens are without dental insurance. There also appears to be a lack of training on how to treat patients with developmental disabilities and a low number of dentists that accept Medicaid reimbursement and behavior problems (Belt, 2002). Recent cutbacks in Medicaid funding have left this population without coverage and therefore, needed care.

As of October 1, 2003 the State of Michigan cut Medicaid spending for dental coverage for individuals 21 years and older. The State was faced with budget cuts and decided to swing their mighty ax at the Medicaid dental program. Thus hitting the poor, needy, disabled and elderly underserved with a massive blow to a service that can detect, cure, and prevent many the medical problems this population struggles with. In the long run, this decision could prove to be much more costly to the State.

Spokeswomen for the Michigan Department of Community Health GERALYN Lasher said “We had to make our decisions between very important and vital...and there is simply not the funding to cover these services” (Jackson Paper, 2003). The State claimed to spend \$20 million a year on the Medicaid dental program. However, Linda YAROCH the Director of Planning & Regional Health for Northwest Michigan makes the point that the \$20 million is the total Medicaid budget not the dental budget and of that \$20 million budget dental had \$9 million of it. Because Medicaid dollars are matched by the federal government Michigan will lose \$40 million of services to save \$9 million (Yaroch, 2003). It is of worth to examine what services made up the \$9 million budget cut, and what Medicaid services are still available for those 21 years and older.

Over 600,000 people made up the population that relied on Medicaid funding to pay for their dental treatments. Some of the services that have been cut are as follows; routine examinations, prophylaxis, restorations, and dentures. Early signs of periodontal disease, oral cancer, and other infection can be detected through regularly scheduled dental examinations. Restorations constitute fillings, crowns, bridges, and endodontics (root canal treatment). These services are no longer covered by Medicaid to individuals 21 years or older (Reinhart, 2003). 40% of the Medicaid dental patients fall into this age

group. Moreover, 60% of the disease treated exists in adults 21 years and older (Shaheen, 2003).

Table 2. Covered dental procedures for Medicaid in Michigan

| Procedure Code | Short Description                             |
|----------------|---|
| D0140          | Limited oral evaluation-problem focused       |
| D0220          | Intraoral, periapical, first film             |
| D0230          | Intraoral, periapical, each additional film   |
| D7140          | Extraction, erupted tooth or exposed root     |
| D7210          | Extraction of tooth, erupted                  |
| D7220          | Extraction of tooth, soft tissue impaction    |
| D7230          | Extraction of tooth, partial bony impaction   |
| D7240          | Extraction of tooth, complete bony impaction  |
| D7260          | Oroantral fistula closure                     |
| D7261          | Primary closure of a sinus perforation        |
| D7510          | Incision and Drainage (intraoral soft tissue) |

**Table 2:** Lists the dental procedures that are still covered under Medicaid benefits in Michigan for those 21 years and older

As Table 2 shows, Medicaid participants 21 years and older still receive treatment for emergent/urgent services for the relief of pain and or infection (Reinhart, 2003). The usual emergency treatment consists of extraction of the offending tooth. Patients may visit the ER if they need emergent/urgent treatment and receive the sought after treatment if it is deemed necessary. Many feel that the ER will be used more frequently by Medicaid patients for dental related problems resulting in further overcrowding in these already heavily impacted facilities.

There is also fear that there will be other health problems that will follow from the lack of treatment. In the U.S. over 50% of the adult population has evidence of gingivitis, and 35% have some form of periodontitis. In addition the cases of diabetes both type 1 and type 2 are increasing in the U.S. especially in those 35 years and older (Kenney et. al., 1995). Sadly, this is the very same population that Michigan is denying

Medicaid benefits. Research shows that levels of glycemic control are linked with microvascular disease for both types of diabetes (Klein et. al., 1996). Unsatisfactory glycemic control and micro vascular disease complication such as retinopathy, nephropathy, and neuropathy can be the cause of blindness and end stage renal disease. Mounting evidence shows that periodontal infection has a negative effect glycemic control in diabetes (Taylor, 2001).

At the University of Michigan School Of Dentistry 20% of their patients are Medicaid beneficiaries. The University of Michigan Medical Center Department of Hospital Dentistry/Oral Maxillofacial Surgery offers services to many medically compromised patients. Most of their patients are also Medicaid beneficiaries. Many of the Medicaid population seek their dental treatment from University of Michigan staffed Community Outreach Clinics. Michigan currently has 8 of these Learning Centers. Senior dental students will spend 4 weeks at a clinic and provide service to number of individuals (Veryser, 2003). These new cuts will have a major impact on the number of people who can afford to have their dental work done at the school, hospital, and out reach clinics. Furthermore, this will hurt the students that rely on these people to assist them with their education and career goals. Also at jeopardy are the career and social desires of the Medicaid beneficiary since lack of dental treatment can result in lost days at work along with poor esthetic appearance.

### **c. The changes in the dental market**

The profession of dentistry continues to change and evolve through research technological innovations. This becomes apparent as one visits the different dental offices throughout the nation. Some dentists have stuck with the traditional methods of

the profession, such as developing radiographs manually, utilizing hand written appointment book, and placing laboratory processed crown and bridge work. On the other hand, many dentists have all the latest and new technologies. Digital x-rays, in office computer aided design and manufacture of crowns, and computerized appointment scheduling and billing are the norm in modern dental facilities.

Many dentists take full advantage of this new technology to deliver state of the art care, and attract new patients to their practice. In our society today many people are concerned with what looks good. How we physically look and feel is the driving force behind what we spend our time, efforts, and money on. The growing mindset “to look good is to feel good” has changed the way our society seeks dental treatment. Much of the new dental technology is designed for the cosmetic side of dentistry. The market of dentistry has changed from a simple restorative market to a market that is cosmetic driven, and many dentists are adapting to the change. Not only because patients want brighter smiles and straighter teeth but because, with the proper prevention, patients have less dental disease. Many dentists today must find ways to expand their practices in other avenues than restoring decayed teeth, because there simply are not as many decayed teeth. Cosmetic dentistry is their answer to the busyness problem.

### **1. New Restorations**

It is not uncommon for a dentist to replace perfectly adequate amalgam restorations with tooth colored composite restoration. By doing this, the patient doesn't have to look at their unsightly silver amalgam although the tooth may be in a location in the mouth that is virtually impossible for anyone to see except with a mouth mirror. Some may argue that the mercury found in amalgam fillings can cause physically



disturbing effects to patients with amalgam fillings, and that is the reason to have them removed. However, according to the American Dental Association (ADA) there is no clinically proven evidence that supports that claim ([www.ADA.org](http://www.ADA.org), 2003). Research has shown that there is nothing wrong with the amalgam fillings, and in fact they last much longer and cost less than the composite fillings, however the demand is for what looks nicer (Seifert, 2003; Pai, 2003).

Another restoration that is becoming more prevalent is in-office porcelain filling or crowns. Cerec is one such system. Cerec is a porcelain inlay or onlay that is used in place of a crown or filling. Through the use of computer aided design and manufacture, the patient is able to come into the office have their previous restoration removed, be fitted for the new Cerec restoration in one visit. This is appealing to some patients because traditional crowns generally take two visits, due to lab work involved.

One field of cosmetic dentistry that has been greatly improved in the past few decades is dental implants. Research has shown evidence of the idea and implementation of dental implants dating back to the ancient Egyptians and South American civilizations. However, the 1930's to present day has provided us with many different procedures and information that has brought this innovative procedure where it is today. The first breakthrough discovery was found by Dr. Per Ingvar Branemark, a Swedish Orthopedic Surgeon. He found that titanium would fuse to bone when he placed a titanium implant into a rabbit's hip.

He and his colleagues then began using titanium implant material in the maxilla and mandible and added a prostheses to replace missing teeth (Vadgama, 2003). Today there are many different types of implants available to dentists and patients. One type of

implant is an Endosseal implant. This implant is inserted into the mandible or maxilla and acts as the tooth's root. Another type of implant is a Subperiosteal. This implant would serve a patient that could no longer wear a denture. The implant fits on to the existing bone to give stability to a denture (Aidelbaum, 1998). These innovations have greatly improved many patients' quality of life through better mastication and esthetics.

## **2. Other new technologies**

Another cosmetic procedure that has gained in popularity is teeth bleaching. Bleaching is a service that many dentists will provide to patients that will increase the whiteness of their teeth. Methods for bleaching range from at home over-the-counter methods, to professional strength at home methods, to in office quick fixes. One of the methods for in office bleaching that seems to be becoming more popular is "Zoom". The "Zoom" product allows the patients to have their teeth bleached in one visit by through the utilization of an intensified light to activate the bleaching material.

Dental professionals can also offer veneers to patients. Veneers replace the esthetic surface of the teeth with a thin layer of tooth colored material. These veneers can be used as quick fixes for color problems or minor orthodontic corrections.

Within the last ten years there have been many advances in computer technology. The technology has allowed for more efficient dental office management. These advances have more importantly facilitated the access to specialists and continuing education. Video conferencing, teledentistry, teleconsulting, e-mail based consultations and online consultations with specialists have made it much easier to give patients comprehensive care (Birnbach, 2000). Online continued education has helped immensely with the access to this information.

Mobile clinics have made the underserved populations have care that they would not otherwise have gotten (Belt, 2002). Also there has been some increase in the number of specialists that will come on demand to areas that need specific help (Mulligan, Goldstein, Niederkohr, 2000).

With the advances in technology new challenges have arose. The challenges include training dental professionals on how to use the new technology (Covington, Craig, 1997), and the expense of using the new technology (Birnbach, 2000).

It was shown that dental hygienists still prefer to utilize traditional information sources like discussions with colleagues, journal articles, and mailings instead of the internet resources. The article concluded that dental hygienists need training to improve their computer literacy skills. Another article concluded the with the same findings and showed that most dental hygienists are interested in attending related continuing education courses and indicated that computer skills should be part of the dental hygiene curricula (Covington, Craig, 1997).

There are other negatives that come with these new technologies. Research has shown that equipping an older practice with all of the newest technologies would not be cost effective. However, not having the latest technologies makes the practice less appealing for recent graduates. Thus, the practice becomes less valuable as a salable commodity or potential partnership venue. (Pierre Fauchard Academy, 2004) This leaves little options for the older offices.

Each source cited in this paper had its own unique limitations. The limitations that had the greatest implication on the research were dental office addresses. It is unknown

if the addresses used for the geographic studies were office or home address given to American Dental Association. So the results may be incorrect about exactly where the dental practices were. There may have been biases by some authors. And there may be more recent information available.

### Discussion and Appraisal

The uneven distribution within the United States needs to be solved. In the future more dental schools need to be opened, especially in those states which have no dental schools. The idea being, those that are trained in the State are more likely to stay and practice in that state. Table 3 shows the number of dental schools each State.

Table 3: Distribution of dental schools in the United States

| State          | Number of Dental Schools | State          | Number of Dental Schools |
|----------------|--------------------------|----------------|--------------------------|
| Alabama        | 1                        | Montana        | 0                        |
| Alaska         | 0                        | Nebraska       | 2                        |
| Arizona        | 1                        | Nevada         | 1                        |
| Arkansas       | 0                        | New Hampshire  | 0                        |
| California     | 5                        | New Jersey     | 1                        |
| Colorado       | 1                        | New Mexico     | 0                        |
| Connecticut    | 1                        | New York       | 4                        |
| Delaware       | 0                        | North Carolina | 1                        |
| Dist. Columbia | 1                        | North Dakota   | 0                        |
| Florida        | 2                        | Ohio           | 2                        |
| Georgia        | 1                        | Oklahoma       | 1                        |
| Hawaii         | 0                        | Oregon         | 1                        |
| Idaho          | 0                        | Pennsylvania   | 2                        |
| Illinois       | 2                        | Rhode island   | 0                        |
| Indiana        | 1                        | South Carolina | 0                        |
| Iowa           | 1                        | South Dakota   | 0                        |
| Kansas         | 0                        | Tennessee      | 2                        |

|               |   |               |   |
|---------------|---|---------------|---|
| Kentucky      | 2 | Texas         | 3 |
| Louisiana     | 1 | Utah          | 0 |
| Maine         | 0 | Vermont       | 0 |
| Maryland      | 1 | Virginia      | 1 |
| Massachusetts | 3 | Washington    | 1 |
| Michigan      | 2 | West Virginia | 1 |
| Minnesota     | 1 | Wisconsin     | 1 |
| Mississippi   | 1 | Wyoming       | 0 |
| Missouri      | 1 | Puerto Rico   | 1 |

This table graphically displays the lack of dental training facilities in the more rural States. Increased funding is one way to provide more dental graduates in these areas of the country. Also dental corporations such as, Crest, Colgate, Oral-B, and others might sponsor the funding for dental school construction. By doing this the dental school could use their products exclusively. However, there still need to be incentives for the students to stay and work in the underserved areas and to provide enough dental faculty to support the new facilities.

There are many incentive programs across the country that strive to recruit newly graduated dental students into the underserved areas. For instance in Grand Rapids, Michigan at the Cherry Street Clinic dentists are offered \$70,000 a year plus a potential 20% bonus, \$5,000 a year from the clinic in student loan repayment and a potential \$12,000 a year federal funding for loan repayment, plus full benefits for the dentist and family. This totals to a potential for \$115,000 a year. Clinics in Maryland offer similar loan repayment programs and income tax subtractions for working in underserved areas.

Another form of type of incentive could be the sponsoring of students through dental school by an underserved community, or corporations, in exchange for years of service in that underserved community.

More areas should offer such incentives for their citizens to get better care and more lucrative benefits should be available to entice more dentists. Many of these clinics offer low cost care and this would help that portion of the population that is unable to pay for dental care.

Further research needs to be done on how the Medicaid patients who have lost coverage are affected by the decreased care. Further research could also shed light on how many dentists are realistically needed and where the lack of dental manpower may be. It seems as though the potential problem is further misdistribution of dentists serving in certain geographic areas and patient populations not an overall shortage of dentists.

## **Conclusion**

The future of dentistry will continue to play a major role in the overall health of the population of this country. Many people throughout the country do not receive needed dental care because of their economic standing, physical disabilities, or their age. Yet other people in this country not only receive the care they need, they are also able to purchase additional cosmetic services. Nevertheless, there are still those that need the basic dental care and are not receiving it because of the lack of close affordable dentists in their area.

Those in rural and urban communities, along with many of the Medicaid population and uninsured population suffer the most from this shortage in dental care providers. Moreover, these are the people that need the basic dental care the most. By

receiving the basic dental care these populations need, dentists will be able to help the overall health of these patients. Many diseases could be treated or prevented with early detection.

Currently, there needs to be more dentists to meet these needs. The contributing factors to the current shortage in dental manpower are; dental schools closing, lower numbers of students admitted, school faculty leaving for more lucrative work in private practice, and the lack of dental schools in some states. Funding of existing and new dental schools would produce more dentists. Funding of more lucrative incentives would entice dentists to practice in areas needing more services. By increasing manpower in dentistry it will make access to dental care more equitable.

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